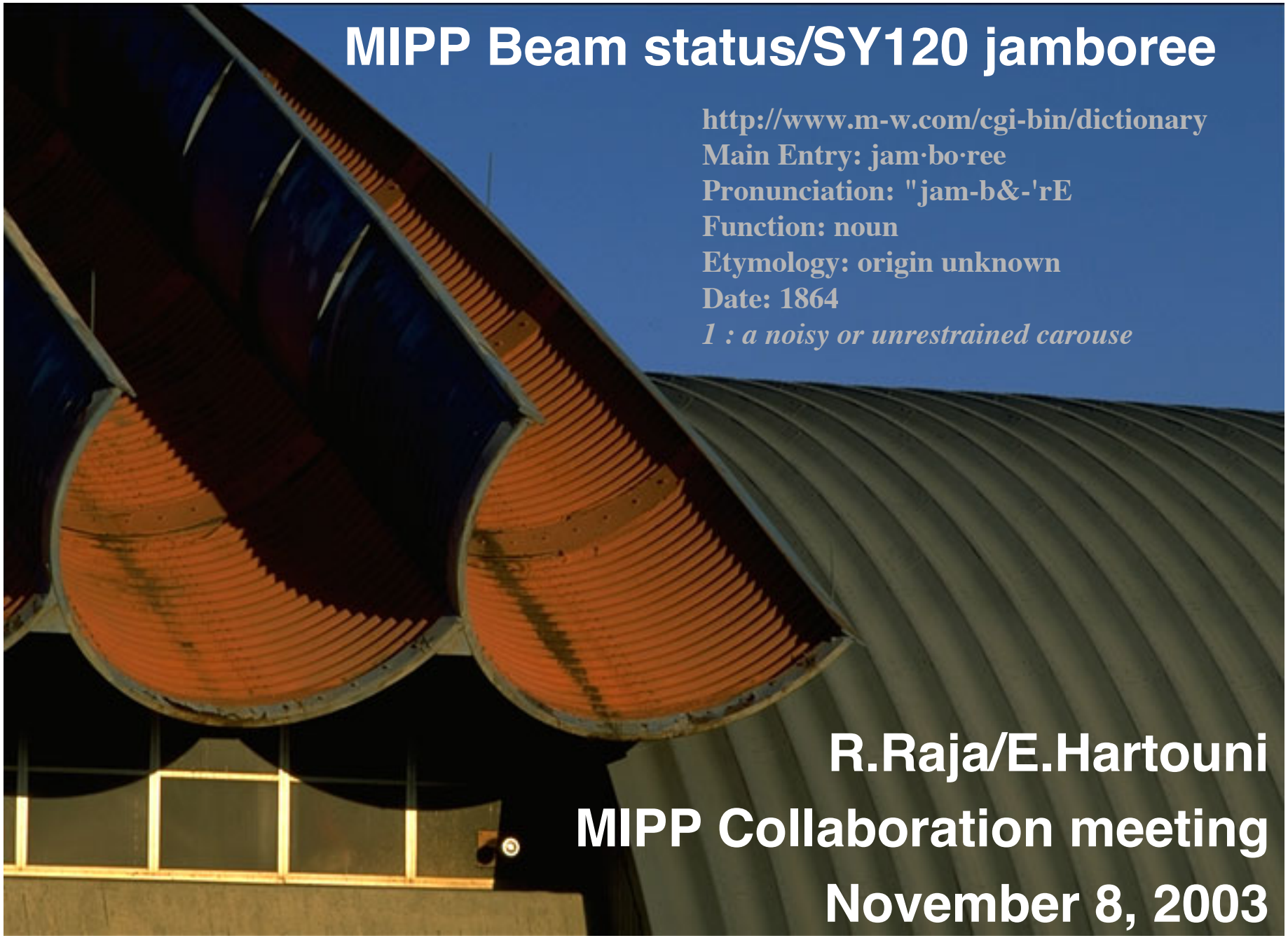


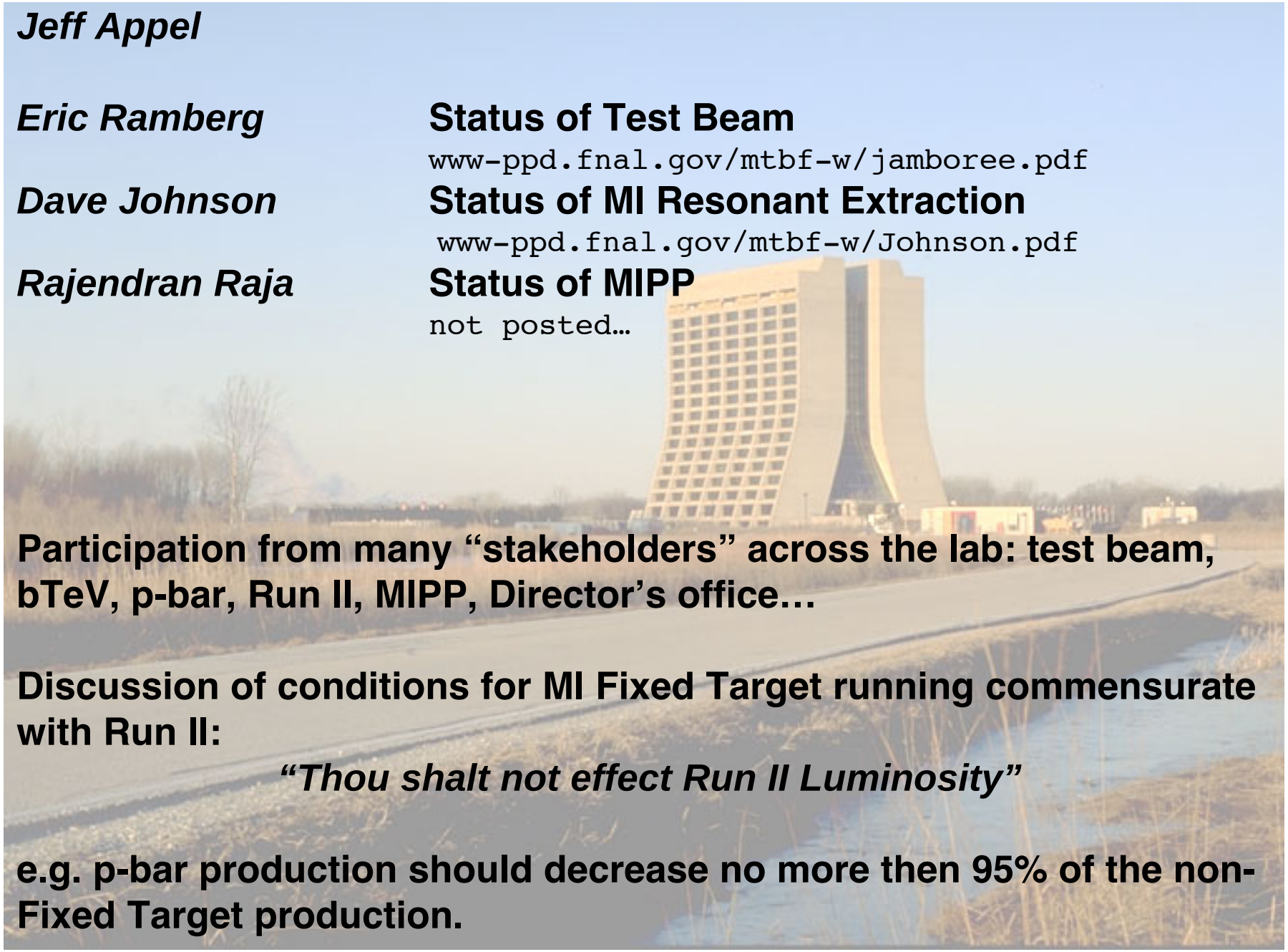
MIPP Beam status/SY120 jamboree

http://www.m-w.com/cgi-bin/dictionary
Main Entry: jam·bo·ree
Pronunciation: "jam-b&-'rE
Function: noun
Etymology: origin unknown
Date: 1864
1 : a noisy or unrestrained carouse

R.Raja/E.Hartouni

MIPP Collaboration meeting

November 8, 2003



Jeff Appel

Eric Ramberg	**Status of Test Beam**
	www-ppd.fnal.gov/mtbf-w/jamboree.pdf
Dave Johnson	**Status of MI Resonant Extraction**
	www-ppd.fnal.gov/mtbf-w/Johnson.pdf
Rajendran Raja	**Status of MIPP**
	not posted…

Participation from many "stakeholders" across the lab: test beam, bTeV, p-bar, Run II, MIPP, Director's office…

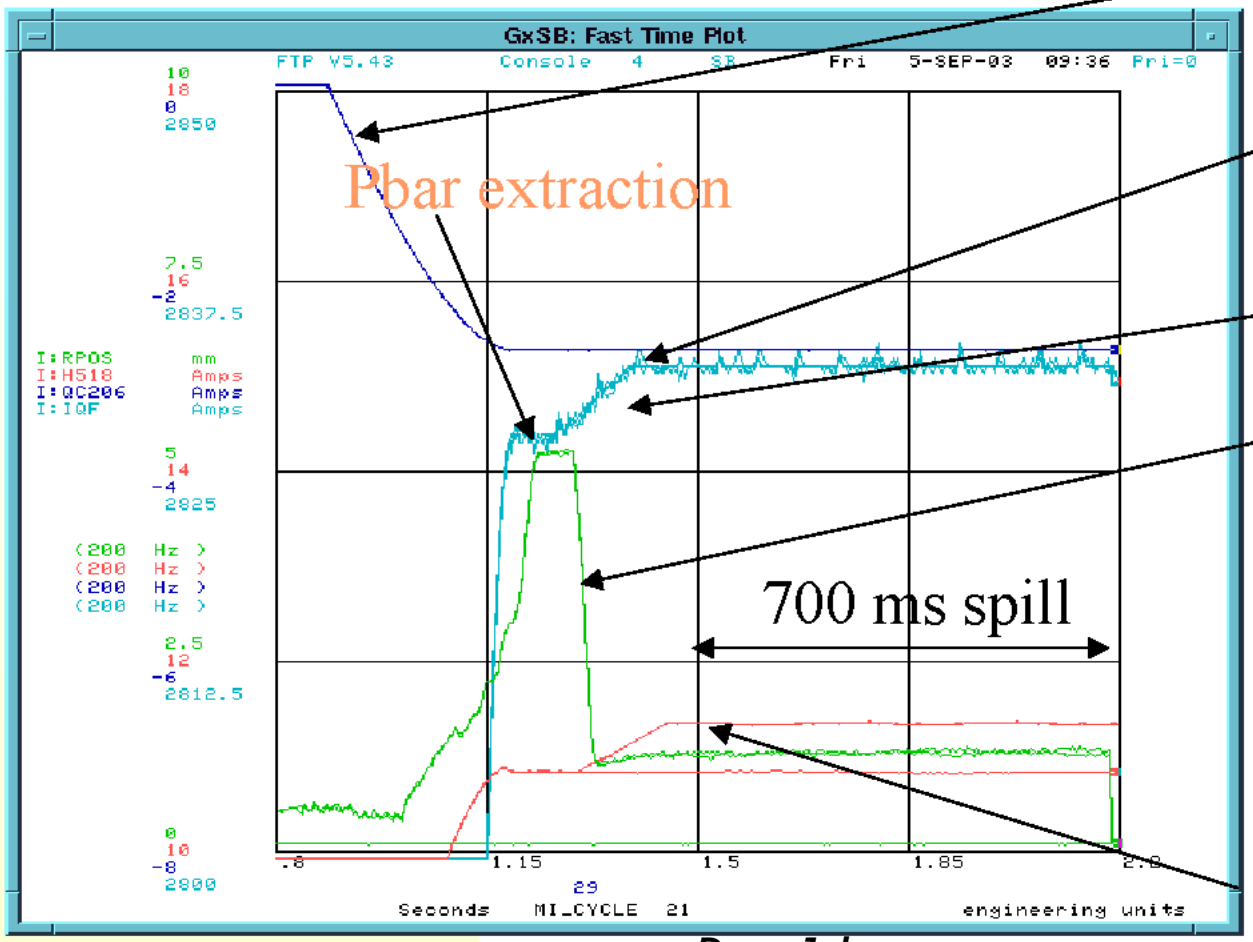
Discussion of conditions for MI Fixed Target running commensurate with Run II:

"Thou shalt not effect Run II Luminosity"

e.g. p-bar production should decrease no more then 95% of the non-Fixed Target production.

Flattop timing for slow spill

MI cycle time 2.78 sec / Total 3.25 sec



Half-integer comp.

Start ramp harmonic quads

Tune quads -.485

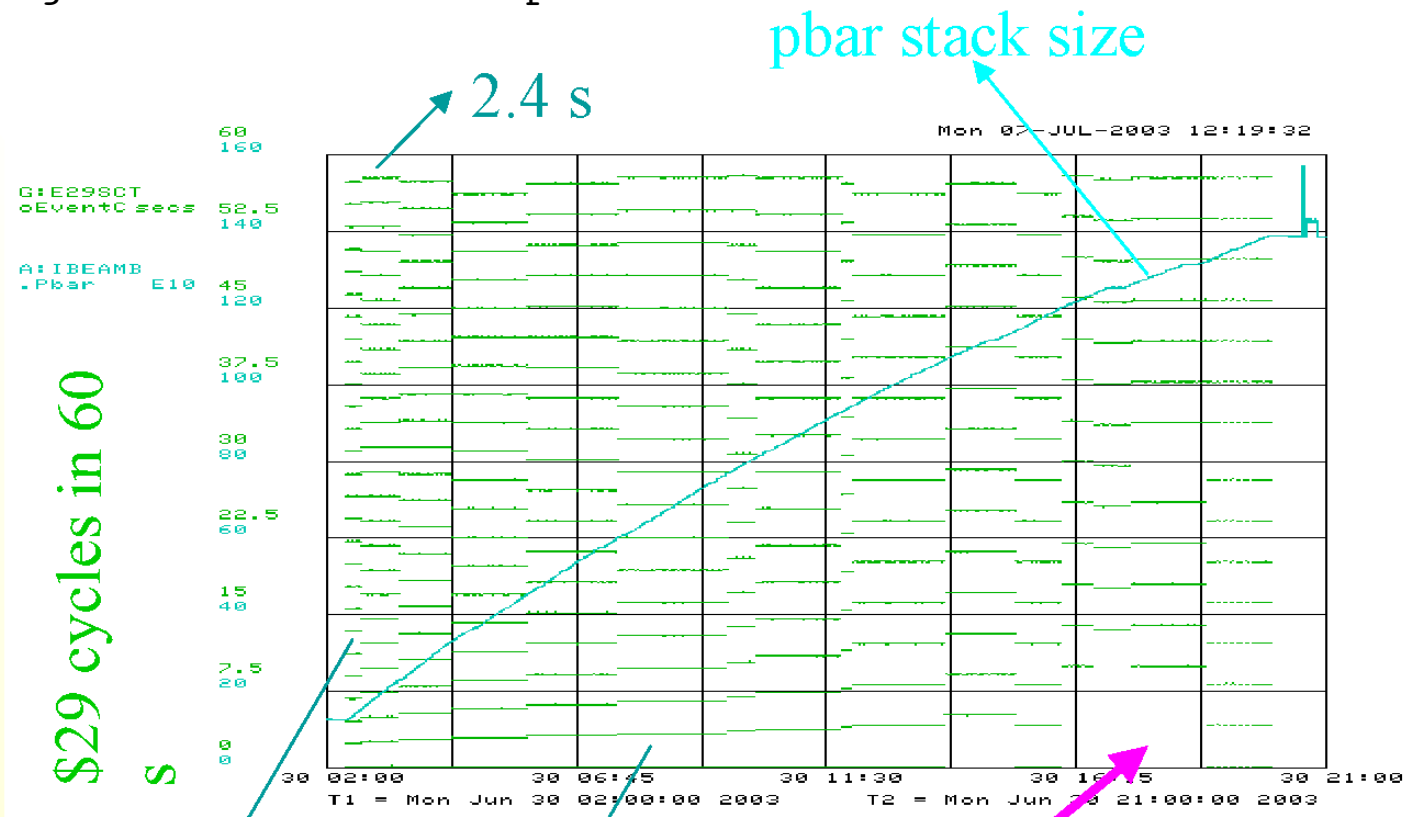
RPOS: Reset dp/p to zero

Establish slow spill orbit

Dave Johnson
Status of MI Resonant Extraction
SY120 Users Meeting
www-ppd.fnal.gov/mtbf-w/Johnson.pdf

Pbar Cycle Time

www-ppd.fnal.gov/mtbf-w/Johnson.pdf



Cannot use Johnson spill until cycle time is > 3.25 s
At this point, MIPP gets a 0.7s spill every cycle.
This occurs 8 hours into the p-bar stack.
If we get spills in the first 8 hours, we cannot share with the p-bar stacking.

Meeting the "95%" condition, MIPP could take 1 cycle out of 11 cycles. I assumed this spill could have a 1s or 2s flat top. Further, assuming MIPP takes 60 events/sec estimate the number of events in three conditions:

	MIPP events	*eff*	*p-bar hit*	*data pts.*
late cycles only	386316	0.299	1.000	0.129
early cycles 1s spill	441996	0.342	0.951	0.147
early cycles 2s spill	497676	0.385	0.951	0.166

Note that an MIPP "looses" only 100,000 events (20%) going from the maximum rate to the minimum rate. In the mode when MIPP doesn't use the early cycles, there is no reduction in p-bar rate.

While strange, MIPP data would be taken 8 hrs into the 18 hr p-bar stack cycle

Given this cycle scenario, MIPP requirements can be met by the Fermilab schedule:

	days per data pt.	*run duration*
late cycles only	5.81	151
early cycles 1s spill	5.10	133
early cycles 2s spill	4.51	118

This requires that Run II implements the "full" p-bar stack running regime (which is the maximally luminous path).

date	MIPP	NuMI	meetings	MIPP shift
11/19/03	startup/commissioning			Engineering
11/26/03	startup/commissioning			Engineering
12/3/03	startup/commissioning			Engineering
12/10/03	RUN		Fermilab PAC	Engineering
12/17/03	RUN			Engineering
12/24/03	RUN			Engineering
12/31/03	RUN			Engineering
1/7/04	RUN			Engineering
1/14/04	RUN		Quark Matter 2004	Engineering
1/21/04	RUN			Engineering
1/28/04	RUN			Engineering
2/4/04	RUN		E907 Collaboration Meeting	Engineering
2/11/04	RUN			Engineering
2/18/04	RUN			Engineering
2/25/04	RUN			Engineering
3/3/04	RUN			Data
3/10/04	RUN			Data
3/17/04	RUN			Data
3/24/04	RUN		Fermilab PAC	Data
3/31/04	RUN			Data
4/7/04	RUN		APS April Meeting (Denver)	Data
4/14/04	RUN			Data
4/21/04	RUN			Data
4/28/04	RUN			Data
5/5/04	RUN		E907 Collaboration Meeting	Data
5/12/04	RUN			Data
5/19/04	RUN			Data
5/26/04	RUN			Data
6/2/04	RUN			Data
6/9/04	RUN			Data
6/16/04	RUN		Fermilab PAC	Data
6/23/04	RUN			Data
6/30/04	RUN			Data
7/7/04	RUN			Data
7/14/04	RUN			Data
7/21/04	RUN			Data
7/28/04	RUN			Data

date	MIPP	NuMI	meetings	MIPP shift
8/4/04	M&D (shutdown)		E907 Collaboration Meeting	Shutdown
8/11/04	M&D (shutdown)			Shutdown
8/18/04	M&D (shutdown)			Shutdown
8/25/04	M&D (shutdown)		DPF Riverside CA	Shutdown
9/1/04	M&D (shutdown)			Shutdown
9/8/04	M&D (shutdown)			Shutdown
9/15/04	M&D (shutdown)			Shutdown
9/22/04	M&D (shutdown)			Shutdown
9/29/04	M&D (shutdown)		Fermilab PAC (?)	Shutdown
10/6/04	startup/commissioning	installation		Engineering
10/13/04	startup/commissioning	installation		Engineering
10/20/04	RUN	installation		Data
10/27/04	RUN	installation	DNP Chicago IL	Data
11/3/04	RUN	installation	E907 Collaboration Meeting	Data
11/10/04	RUN	installation		Data
11/17/04	RUN	installation		Data
11/24/04	RUN	installation		Data
12/1/04	RUN	installation		Data
12/8/04	RUN	installation		Data
12/15/04	RUN	installation		Data
12/22/04	RUN	installation		Data
12/29/04	RUN	installation		Data

Planning the shifts – including identifying the shift personnel – is the next task